

AlKarma Language School

Academic year: 2016 / 2017



Primary 5

Science Sheets

First term

- Student Name: ______________________

- Class : ______________________



Unit 1 | Energy | Lesson 1

Energy

It is the ability to do work or to make a change.

Forms of energy

(Light energy - Electric energy - Heat energy - Sound energy
Magnetic energy - Kinetic energy -Potential energy).

Light energy

What is light?

It is an energy form which can be seen. (Visible spectrum)

Sources of light

1. The sun
2. The moon
3. The lightened lamps.

The Sun

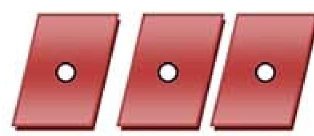
It is the main source of light on the earth's surface.

The moonlight



It is the reflection of the sunlight that falls on its surface.

Light travelling

Light travels in straight lines



Experiment	Observation	Conclusion
1. Get three Cardboards each contains a hole in its center& a candle. 2. Put them on a straight line.	We can see the candle's light.	Light travels in straight lines.

Activity (2):



The idea of photographic camera:

Experiment	Observation	Conclusion
1. Place a lightened candle in front of a box containing a hole. 2. Look at the other side of the box which contains a transparent paper.	A minimized& inverted image of the candle is formed.	Light travels in straight lines.

How does shadow form?

Shadow

It is the darkened area which is formed as a result of light falling on an opaque object.

Activity:

Experiment	***Observation***	***Conclusion***
1. Place your hand between a light source& the wall.	A shadow is formed.	Light travels in straight lines.

The *nearer the object* to the light source is *the bigger the object* shadow becomes.







Types of materials:

Materials can be classified according to the amount of light that transmit through them into:

Transparent	*Semi- transparent*	*Opaque*
The material which things *can be clearly* seen behind. Example: glass sheet	The material which things *can be less clearly* seen behind than the transparent one. Example: paper tissue	The material which *doesn't allow* the light to travel trough them& things behind can't be seen. Example: cartoon paper

Properties of light:

1)-Light reflection.

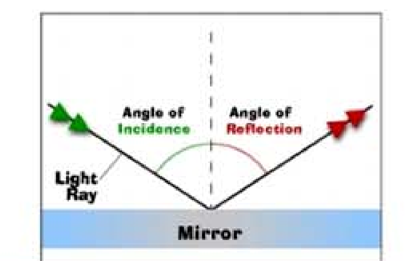
2)-Light refraction.

3)-Light separation.

Light reflection

Light reflection

It is the returning back (bouncing) of light when it falls on a plane mirror.



Activity (1):

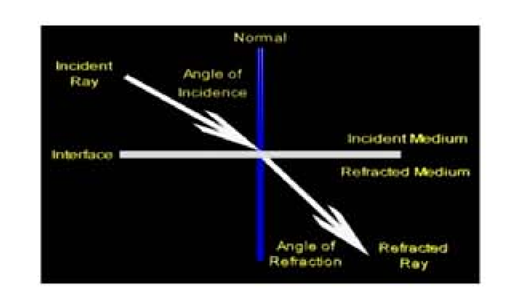
Experiment	Observation	Conclusion
Stand facing a plane& smooth mirror.	You can see your image.	When light falls on the mirror it will be reflected back. This reflection is known as (regular reflection)

Activity (2):

Experiment	Observation	Conclusion
Stand facing a piece of white paper.	You can't see your image.	When light falls on the paper's surface, it reflects& scatters light in different directions This reflection is known as (Irregular reflection)

Light refraction

Light refraction



The changing of the direction of light ray when it passes through two different transparent medium.

Activity

Experiment	***Observation***	***Conclusion***
Look at a pencil inside a glass of water.	**The pencil looks broken.**	**Light refracts when they transfer through different medium.**

Q

Give reasons for:



1)-The bottom of the swimming pool appears in a higher position than its real one.

OR **The fish under water appears nearer than its normal position.**

Due to the light refraction

2)-**Light refracts when it transfer through different medium.**
Because light speed in air is faster than in water, so light refracts (bends or changes its direction)

Light separation

Activity

Experiment	Observation	Conclusion
Hold a prism & let the sunlight shine through it on a white paper.	The visible white light can be separated into seven colors: (Red- Orange - Yellow - Green - Blue -Indigo - Violet)	The visible spectrum is made up of seven colors Called (spectrum colors)

Q

<u>Give reasons:</u>

We can see the rainbow after a shower of rainfall.



Because sunlight passes through water droplets during rain falling & separates into seven spectrum colors.

* Sunlight is an excellent example of white light

Unit 1

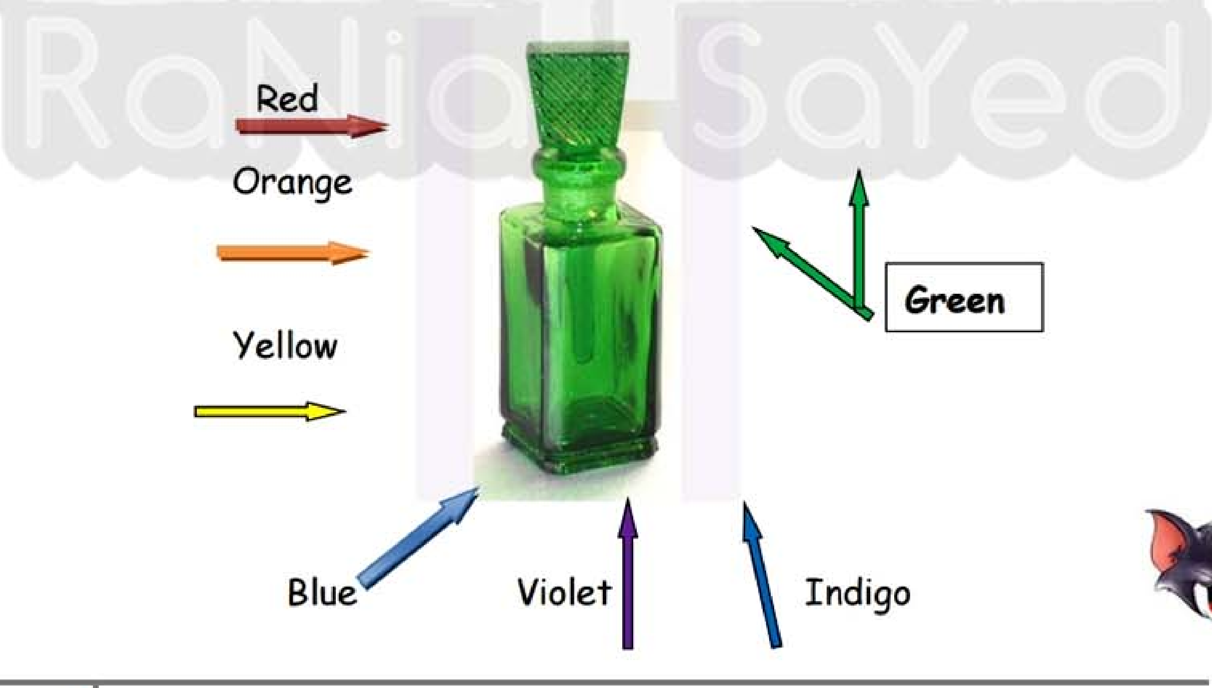
Seeing colored objects

Lesson 2

The white visible light can be separated by a prism *into 7colors* because the white light is composed of the 7spectrum colors.

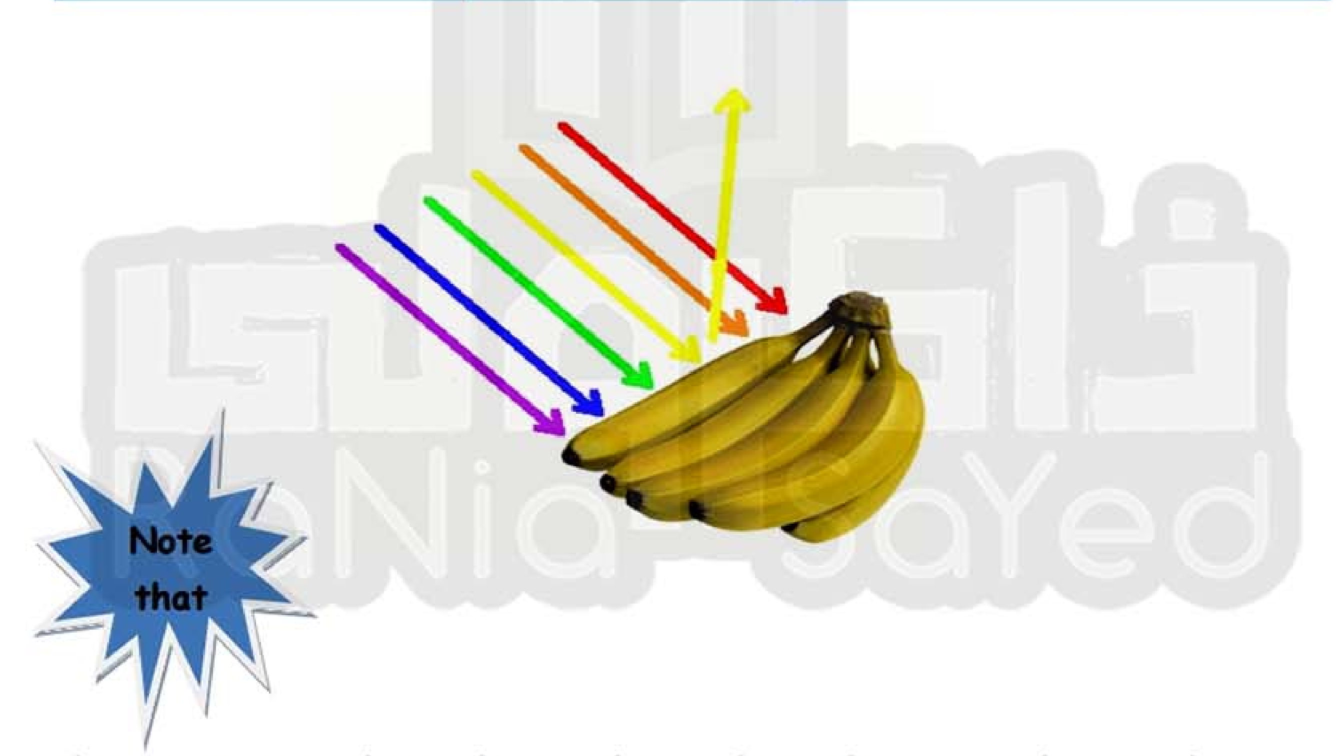
Activity 1

Experiment	*Observation*	*Conclusion*
Look at a green *transparent* glass bottle.	It seems to be green.	When white light falls on the bottle, it *absorbs* all the light colors except the green one. It *transmits* the green light only so it looks green.



Activity 2

Experiment	*Observation*	*Conclusion*
Look at a banana fruit.	It seems to be yellow.	When white light falls on the banana, it *absorbs* all the light colors except the yellow one. It *reflects* the yellow light only so it looks yellow.



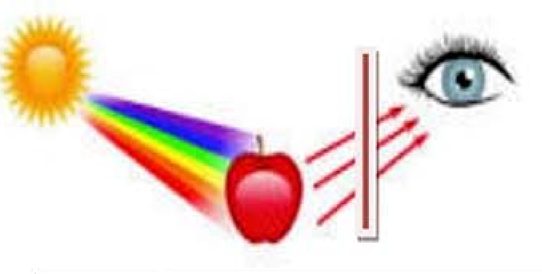
*Transparent and translucent objects have the same colors as the light transmitted through.

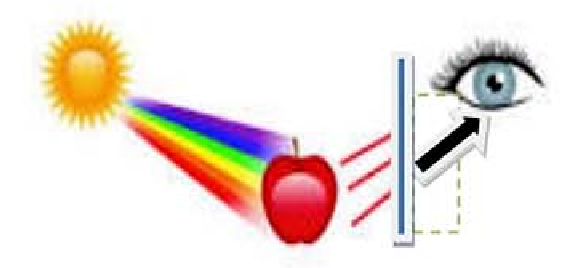
*Opaque objects have the same color of light they reflected on it.

*some objects seem to be black because they absorb the seven colors

Activity 3

Experiment	Observation	Conclusion
1) Look at the red apple through the red glass sheet.	The red apple seen red.	The red apple is seen red because it absorbs all the colors of light that strike it and reflects the red one only. The reflected red light bouncing back from the apple it strikes the red sheet; the red light transmits through the glass and reaches the eyes so you see the apple in red.
1) Look at the red apple through the green glass sheet.	The red apple seen black	The red apple is seen red because it absorbs all the colors of light that strike it and reflects the red one only. The reflected red light. bouncing back from the apple it strikes the green sheet , the red light doesn't transmit through the green glass and doesn't reach the eyes so you see the apple in black





Types of colors

Primary colors

(Red – Green - Blue)

By mixing the colored lights by using 3 colored projector sets Red, Green and Blue we find that:

Mixing the three primary colors

Red + Green + Blue —Lights give→ a White color.

Secondary colors

Mixing two primary colored lights gives *secondary color.*

1. Mixing Red + Blue —gives→ Magenta
2. Mixing Red + Green —gives→ Yellow
3. Mixing Blue + Green —gives→ Cyan



Remember That

Transparent & translucent

Transparent & translucent objects have the same colors as light ***transmits*** through.

Example



Such as green glass bottle, it seems to be green because it absorbs all the spectrum colors except the green color which transmits it.

(Green glass bottle is transparent material)



Opaque objects **have the same color of light they** ***reflect*** **it.**

Example

Such as banana fruit, it seems to be yellow because it absorbs all the spectrum colors except the yellow color which reflects it.



(Banana fruit is opaque object)

White object

White object ***reflects*** all the colors of the white light.

Dark object

Dark object ***absorbs*** all the light & don't reflect any color.



What happens when& Why?



1. *You look at a* ***red apple*** *through a* ***red glass sheet***

The red apple is seen **red**

Because it ***absorbs*** all the colors of light & ***reflects*** the red one only.

2. *You look at a* ***red apple*** *through a* ***green glass sheet.***

The red apple appears **black**

Because the green glass sheet **doesn't transmit** the reflected red color from the apple.



Unit 1

Magnetism

Lesson 3

Magnet It is a type of rock has natural force to attract the materials made of iron.

Shapes of magnet

1. Bar magnet.
2. Horse-shoe magnet.
3. Round magnet.
4. Magnetic needle.





Classification of materials

Materials can be classified according to the attraction to the magnet into:

Magnetic materials	*Non- magnetic materials*
The materials that are attracted to the magnet.	The materials that are not attracted to the magnet.
Examples: Iron nails – Paper clips – pins.	*Examples:* Glass - wood - aluminum

Activity You have the following objects:

(Pins - nails – Paper clips - glass - chalk pieces - aluminum – copper)

Classify them into magnetic or non- magnetic materials according to their attraction to the magnet:

Magnetic materials	*Non- magnetic materials*

Properties of magnet

1)-The magnet has two poles.

2)-The freely suspended magnet always take one direction.

3)-Like poles repel each other and dislike poles attract each other.

1)-The magnet has two poles

Magnetic poles

They are the area of the magnet which attracts a greater number of paper clips.

South Pole

North Pole

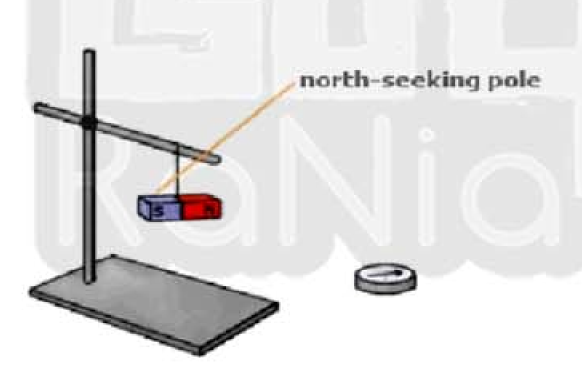
Experiment

Steps	*Observation*	*Conclusion*
Approach some paper clips to a bar magnet.	The two ends of the magnet attract a greater number of paper clips.	Every magnet has two poles.

2)-The freely suspended magnet always take one direction

Experiment

Steps	Observation	Conclusion
Hold a magnet at its centre by a fine string fixed in the stand, leave the magnet until it gets horizontally stabilized and try to move it several times.	The magnet moves again to one direction.	The freely suspended magnet takes one direction and always this direction is the North direction.





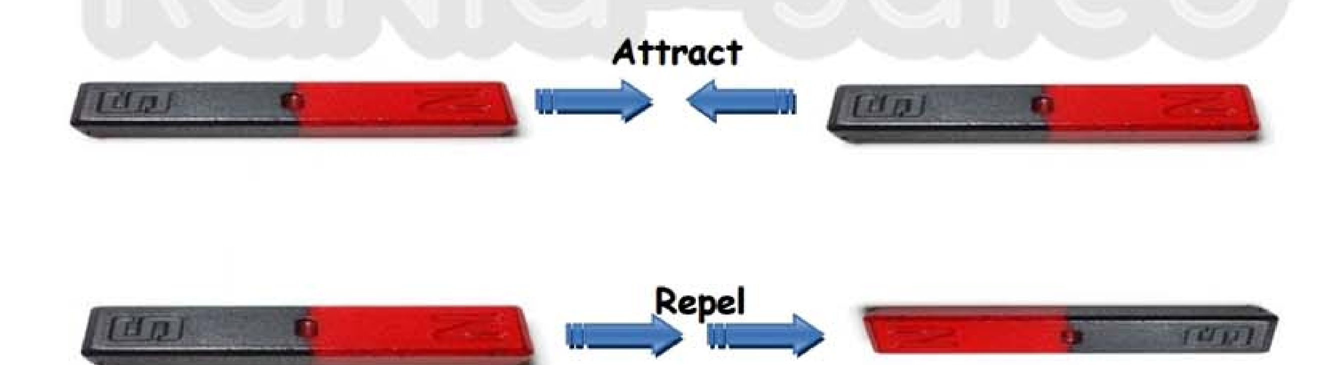
N.B

- The North Pole of the magnet refers to the North direction.
- The South Pole of the magnet refers to the South direction.

3)-Like poles repel each other and dislike poles attract each other

Experiment

Steps	Observation	Conclusion
1. Hang one magnet and make it move freely. 2. Approach the north pole of a magnet to the north pole of the hung one. 3. Approach the north pole of a magnet to the South pole of the hung one.	The two like poles repel each other. The two dislike poles attract each other.	The like magnetic poles repel each other. The dislike magnetic poles attract each other.





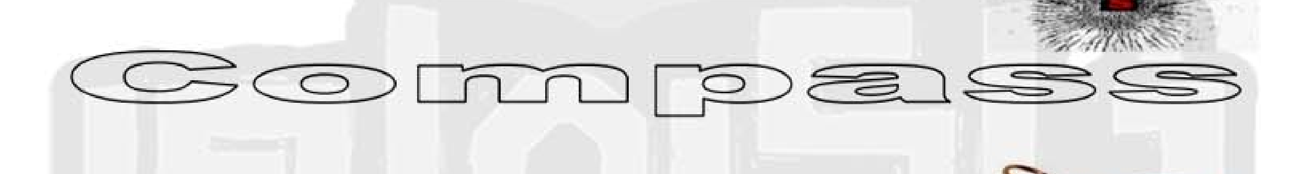
Magnetic field

It is the space around the magnet in which the effect of magnetic force appears.

Magnetic force

It is the magnet ability to attract the magnetic materials.

(The magnetic force is an invisible force)



Structure

<u>A magnetized needle which is</u>:

1. A light and small magnet that can spin freely.
2. Its north pole points to the north geographical direction.

Uses

Identify the four geographical directions.



Story of the Magnet

- 2000 years ago, Ancient Greeks found a type of rocks in the area of *magnesia.*
- The rock has a *natural force* to attract the materials made of iron.
- This black rock is called *natural magnet.*
- Nowadays, it is known that the natural magnet is one of the iron ores which is known as *Magnetite.*



Unit 1

Magnetism & electricity

Lesson 4

Relation between the magnet and the electricity

The electricity has a magnetic effect

Experiment

Steps	Observation	Conclusion
Put a compass beside electric circuit and switch on it.	The compass needle will move suddenly.	The electricity has a magnetic effect.

By using electricity can make artificial magnet

Experiment

Steps	Observation	Conclusion
Bring 30Cm insulated copper wire, then spring it around a wrought iron bar then connect the wire with a battery and approach it to iron clips.	The paper clips attracted to the iron nail.	The iron nail becomes an (Electromagnet)

N.B

When the electric current passes through a twisted wire in the form of a coil around a wrought iron bar, the wrought iron bar becomes a magnet and it is known as *(Electromagnet).*

Electromagnet

When an electric current passes through a twisted wire (coil) around a wrought iron bar the iron bar becomes a magnet.

Uses

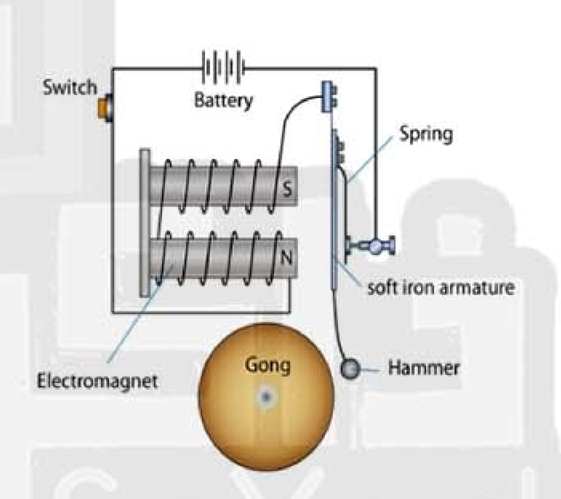
In many devices such as:

Electric bell – Electric mixer --- Television --- The disc drive

2.In Factories:

The electromagnet attracts iron pieces, by cutting the current, it loses its magnetic force& iron pieces fall. (Winches)


Elliptical Electro Magnet





The magnetic force of the electromagnet increases by increasing:

1. The number of coils turns.

2. The intensity of electric current passing through the coil by using two batteries.

By using magnet produce electric current

Experiment

Steps	Observation	Conclusion
As in figure. Move the magnet towards the inside& outside.	We can change the mechanical energy into an electric energy.	The light bulb lights up.

The idea of dynamo

Experiment

Steps	Observation	Conclusion
An electric current is generated by moving the coil in the electric field between the 2 poles of the magnet.	The pointer of the apparatus deflects.	As in figure. When you move the wire between the 2 poles of the magnet.

Dynamo

A device that changes **the Kinetic energy** into **electric energy.**

Examples



Small dynamo in bicycle:

It consists of:

1. A small cylinder which touches the wheel tire.
2. The cylinder is connected with a U- shaped magnet which is surrounded by a coil.

How does it work?

1. When the bicycle moves, the small cylinder turns so the magnet turns.
2. Then an electric current is generated in the coil.

Huge dynamo

It consists of:

Many coils which turn between two poles of a huge magnet.

Uses:

Generate electricity for lightning cities& factories.

Unit 2

Mixtures

Lesson 1

We can organize substance into two basic groups:

1)-Pure substances: are made only of one type of particles.

2)-Mixtures: are made of more than one type of particles.

Example:

- ***Air*** is a mixture of gases such as oxygen, nitrogen, carbon dioxide& water vapor (pure substances).
- ***Mineral water*** is a mixture of minerals such as calcium, magnesium& water (pure substances).

How can matter be mixed?

1. Shaking.



2. Grinding.



3. Stirring.



Types of mixtures

Solid- solid materials	Solid- liquid materials	Liquid- liquid materials
Salt& pepper can be mixed by shaking or grinding.	Salt& water can be mixed by shaking or stirring.	Banana& strawberry can be mixed by shaking or stirring.







How can mixture be separated?

1. Magnetic attraction.
2. Filtration.
2. Evaporation.
4. Using the separating funnel.

Examples

1. *How can you separate a mixture of sand& iron fillings?*

By using magnetic attraction.

2. *How can you separate a mixture of sand, salt& water?*

a)-By stirring → (the salt dissolves in water)

b)-By filtration → (to separate the sand)

c)-By evaporation of water → (the salt remains)

3. *How can you separate a mixture of water& oil?*

By using the separating funnel tap to separate the heterogonous solution.

Unit 2

Solutions

Lesson 2

Solutions

Solubility process

It is the process which is responsible for making solutions.

Solubility process consists of:

1)-Solvent.

2)-Solute.

Solubility process

Solute + Solvent → Solution

The solvent

It is the substance in which the solute dissolves such as water.

The solute

It is the substance which dissolves in a solvent such as salt& sugar.

Solution

It is a mixture in which the solute breaks down & spread through the solvent.

The solution is made when two or more substances combine to form a mixture.



N.B

- If solute particles dissolve in a solvent, we say that it is *soluble (homogeneous mixture)* such as salty or sugary solution.
- If solute particles do not dissolve in a solvent, we say that it is *insoluble (heterogeneous mixture)* such as natural orange juice or mud in water.
- If some of solute particles do not dissolve and be suspended through a solvent, we say that it is *a suspended solution*.

Factors affecting the solubility process

1)-The quantity of solvent& solute.

2)-Temperature.

3)-Stirring.

4)-The kind of the solute.

1. The quantity of solvent& solute

Experiment 1

Activity	Observation	Conclusion
1. Dissolve an amount of sugar in 50ml water& equal amount of sugar in 300ml water. 2. Record the time of solubility process.	The sugar in 300ml water dissolves faster.	The dissolving time increases when the quantity of solvent increases.

2. The temperature

Experiment 2

Activity	Observation	Conclusion
1. Dissolve two equal amounts of sugar in the same amount of water. 2. Heat one of them& leave the other without heating. 3. Record the time of solubility process.	The heated solution dissolves faster.	The solubility process increases when the temperature increases.

3. The kind of solute

Experiment 3

Activity	*Observation*	*Conclusion*
1. Put an amount of sodium chloride [table salt] in water& put the same amount of sodium carbonate in water. 2. Heat both gently with stirring.	The time needed to dissolve sodium chloride differs from that needed to dissolve sodium carbonate.	The solubility process depends on the kind of matter.

4. The stirring

The solubility process increases by stirring.

N.B

N.B

- *Water* is called a common solvent as thousands of substances dissolve in water (salt dissolves in water to form salty solution, sugar dissolves in water to form sugary solution).
- Although some substances don't dissolve in water.

Unit 3 | Environmental balance | Lesson 1

As we know before that the living organisms divide into:

1)-Green plants.

2)-Animals.

Green plants

Can make their own food from sunlight as a source of energy by photosynthesis process.

Animals

Depend on plants to feed & to get energy in a direct or an indirect way.

Food relationships among living organisms:

There are many ways to get food between living organisms and these are called relationships.

Types of relationships

1. Predation
2. Commensalism.
3. Saprophytism
4. Parasitism

1. Predation

Is a food relationship among living organisms in which one living organism devours (kills) another one.

Predation consists of:

1)-Predator: It is the animal which devours other animals.

2)-Prey: It is the devoured animal.

Example Lion and Deer

Predator Prey

Predation in plants

Although some plants perform the process of photosynthesis to make carbohydrates substance, they cannot absorb other compounds from the soil to make their protein.

So,

They have to prey some other tiny animals such as insects to get the elements to form proteins, they are known as insect eaters (Insectivorous plants) Such as *(Drosera and Hyacinth plants).*

In this case

Insectivorous plants → Predators

Insects → Preys

How can animals protect themselves from predation

Many living organisms use different ways to defend themselves against their enemies such as:

1. Camouflage. 2. Mimicry.

1. Camouflage

It is a phenomena in which a living organism can change its color to stimulate the colors of the environment where it lives.

Examples

Fish – Chameleon – Butter flies – Birds –Cuttlefish.

(Cuttlefish ejects a black color fluid in the surrounding water when attacked by its enemies)

2. Mimicry

Phenomena in which the harmless living organisms imitate other harmful or poisonous living organisms to fear their enemies& escape from them.

Example

Some bees look like wasps in forming stripes on their bodies to escape from their enemies which fear from wasp.

2. Commensalism

It is a food relationship between two different living organisms, one of them benefits from the other and does not harm it and the other one may or may not benefit from the first.

Types of commensalism

1)-Mutualism.

2)-Symbiosis.

1. Mutualism

A food relationship in which both of the two organisms get benefit from the other and is not harmed.

Examples

1. Birds& Hippopotamus

The bird has a delicious meal from the ticks hidden in folds of the Hippopotamus skin.

The Hippopotamus gets rid of the horrible bites of those ticks.

2. Bees& flowers

The bee feeds on the nectar of flowers.

The bee helps plants to transfer pollen grains from one flower to another for pollination.

3. Nodular bacteria& Leguminous plants (Bean).

The bacteria fix nitrogen in an inorganic form to provide the plant with it.

The bacteria benefits from the sugar made by plants in photosynthesis.

2. Symbiosis

A food relationship between two living organisms in which one of them benefits from the other, while the other neither gets benefit nor is harmed.

Examples

1. Birds& Crocodile

Crocodiles open their mouths& let those birds to pick up the remains of food between their teeth with no fear.

2. Sponge& tiny aquatic living organisms

Tiny aquatic living organisms get shelter& food from canals& fissures of a sponge which neither benefits nor harmed them.

3. Saprophytism

Is a food relationship in which the decomposers (Saprophytes) get their food by decomposing food remains or the bodies of dead organisms.

Experiment

Activity	***Observation***	***Conclusion***
1. Splash some water drops on a slice of bread in a plastic sac and close it firmly. Leave it on dark place 2. Don't open the sac or inhale the air inside it	Green spots will be formed on the bread surface	The bread mold gets its food by decomposing bread (moist bread)

Examples

Some fungi such as:

(Mushroom – Penecillium - bread mold)

4. Parasitism

It is a food relationship between two different kinds of living organisms: one benefits from the other and is known as the ***parasite***, while the other one is harmed and known as the ***host***.

Types of parasitism

External parasitism	***Internal parasitism***
They live externally on the host's body feeding by sucking its blood.	They live internally inside the host's body feeding on his digested food, its tissues& cells
Examples: Lice , Bugs, Mosquitoes , Fleas , Ticks Jawless lamprey which sucks the fish blood.	Examples: Liver worm , Tape worm Ascaris worm , Bilharzia worm Flaria worm.

Harms of parasitism

The parasitism	The disease
1. Filaria	Causes Elephantiasis to man.
2. Mosquitoes	Causes malaria disease.
3. Fleas	Convey small pox to man.
4. Bilharzia worm	Causes Bilharzias diseases.
5. Ascaris worm	Causes Anaemia.



Food Relationships

Predation

The **predator** devours the **prey**

predators : as lions and insectivorous plants **(Drocera & Hyacinth)** - **preys** defend themselves by **camouflage** & **mimicry**

Commensalism

Mutualism

Both organisms get benefit from the other and not harmed as:

1-**nodular bacteria & lugemenous plants**

2-**insects & flowers**

3- **hippopotamus & birds**

Symbiosis

One living organism gets benefit and the other neither gets benefit nor harm as:

1-**birds & crocodiles**

2-**aquatic living organisms & sponge**

Saphrophytism

Living organisms get their food by decomposing food remains or dead bodies as: some fungi **(mushroom, penicilillium and bread mold**

Parasitism

The parasite is benefit while the host is harmed

Types of parasitism:

1- **internally** (inside the host's body as: **liver worm & tap worm**

2- **externally** (on the host's body) as: **lice, bugs and mosquitoes**

Unit 3

Environmental balance

Lesson 2

Ecosystem

It is a natural area including the living& the non- living things.

Examples

1. A piece of land
2. Water pond.

→ *Small area*

3. The forest.
4. The desert.
5. The ocean.

→ *Large area*

The components of ecosystem

1)- Living organisms such as animals ,plants , fungi & algae.

2)-Non-Living organisms such as water , air & soil .

There are different relations between living organisms in the environmental such as:

1)- The relation between the plant and the soil.

2)-The relation between plants and animals.

3)-The relation among different animals.



What is meant by environmental balance?

Environmental balance

It is the balance among the components of the Ecosystem.



The interaction among the environmental components is a continuous process that leads to keep the balance on unless a disturbance arises as a result of changing the natural things or the interference of man

Factors distrub the environmental balance

Natural chanaes

The changing of the natural conditions in the environment which leads to:

- The disappearance of some organisms or the appearance of others.
- The imbalance of the environment.

Examples The dinosaurs.

Man interference

Such as the environmental pollution, cutting the trees.

Factors which keep the environmental balance

1. The effect of predation on environmental balance

1)-Predation organizes the numbers of prey's populations.

Because the predators help preys to get rid of weak or sick members& let the strong ones reproduce& increase in numbers.



What happens if there are no predators in the ecosystem?

The number of preys will increase so the food will not be enough for them& they will die.

2. The effect of saprophytes on environmental balance

Saprophytic organisms such as Bacteria& Fungi:

1. Work on decomposing the bodies of dead organisms.

2. Recycle the chemical elements found in the bodies of dead organisms such as :

Carbon, Nitrogen& Phosphorus.

To make other living organisms benefit from them.



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Primary 5
Science Worksheets
First term

- Student Name: ______________________
- Class : ______________________



Worksheet 1

Q1: Write the scientific

1. The ability to do work. ________________
2. An energy form which can be seen. ________________
3. The main source of light on the earth's surface ________________
4. The light energy that can be seen. ________________
5. The sun, moon& lightened lamps. ________________

Q2: Correct the underlined words.

1. The ***moon*** is the main source of light on the earth's surface.
____

Q3 Complete:

1. Energy is the ability to ______________________________
2. From the energy forms ____________, ______________
3. The energy form which can be seen is called the __________
4. The __________ is the main source of energy on earth's surface while the ______________ is the reflection of the sunlight that falls on its surface.
5. From the sources of light ______________, ______________& ______________________________

Q4. Give reasons

1. Although the moon is a dark body, it looks bright.
____



Worksheet 2

Q1: Write the scientific

1. The darkened area which is formed as a result of light falling on an opaque object. ________________
2. The material which things can be less clearly seen behind than the transparent one. ________________
3. The material which doesn't allow the light to travel through them& things behind can't be seen. ________________
4. The material which things can be clearly seen behind. ________________

Q2: Correct the underlined words.

1. Light travels in ***curved*** lines.
____
2. The image formed through the narrow holes is ***erected& magnified.***
____
3. The nearer the object to the light source is the ***smaller*** the object shadow becomes.
____
4. The ***translucent*** material doesn't allow the light to travel through them& things behind can't be seen.
____

Q3 Complete:

1. Light travels in —————————— lines.
2. The image formed through narrow holes in cameras is ——————————& ——————————
3. A shadow is formed because light ——————————
4. Materials can be classified according to the amount of light that transmit through them into ——————, —————— & ——————————
5. The—————————— is the material in which things can be clearly seen behind.

Q4. Give reasons

1. A shadow is formed.

——————————————————————————





Q1: Write the scientific

1. The returning back (bouncing) of light when it falls on a plane mirror.
   - ____________________

2. The changing of the direction of light ray when it passes through two different transparent media. ____________________

3. A group of seven colors appears in the air forming a rainbow colors.
   - ____________________

Q2: Correct the underlined words.

1. When light falls on the mirror it will be reflected back& this is called ***irregular reflection***.
   ____

2. When light falls on the paper's surface, it reflects & scatters light in different directions& this is called ***regular reflection***.
   ____

3. The returning back (bouncing) of light when it falls on a plane mirror is called ***light refraction***.
   ____

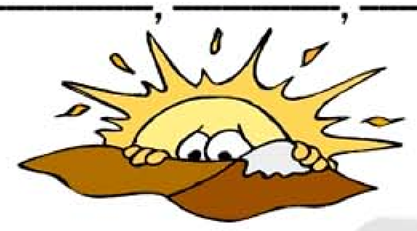
4. The ***reflection of light*** is the changing of the direction of light ray when it passes through two different medium.
   ____

5. The visible spectrum consists of ***six colors***.
   ____



Q3 Complete:

1. The seven spectrum colors are __________, ____________,
________, ________, __________, __________& ________



Q4. Give reasons

1. When you look at the mirror, you can see your image.
____

2. When you put a pencil in a beaker of water, it looks broken.
____

3. Light refracts when it passes in two different media.
____

4. The formation of the rainbow colors in the sky after rainfall.
____



Q1: Write the scientific

1. The objects which have the same colors as light transmits through them. ____________________
2. The objects have the same color of light they reflect. ____________________
3. The seven colors of the white light which sunlight is made up of. ____________________
4. The colors we get by mixing two colors of the primary colored light. ____________________
5. The objects which absorb all the lights and don't reflect any light. ____________________
6. The objects which reflect all the colors of the white light. ____________________

Q2 Complete:

1. The prism separates sunlight into ____________________
2. Transparent colored objects have the same color of light which ____________________ through them.
3. The opaque colored objects seem having the same color of light which ____________________
4. If red light strikes a white ball, it looks ________ in color.
5. Red light + Green light + Blue light = ________________

Q3: Correct the underlined words.

1. When the white light strikes a red rose, it reflects the ***white*** color.
   ____

2. An object seems white since it ***absorbs*** all the colors which the white light is made up of. ________________

3. If you look at a yellow banana through a green glass sheet, it seems ***yellow.*** ________________

4. Red, green and blue are ***secondary*** light colors.
   ____

5. Red, green and ***magenta*** are primary light colors.
   ____

6. By mixing blue and green we get ***yellow*** light color.
   ____

7. By mixing blue and Red we get ***Cyan*** light color
   ____

8. Magenta (purple), Yellow and cyan (light blue) are called ***Primary colors.*** ________________

9. The white light consists of six spectrum colors.
   ____



The Magnet

Q1: Write the scientific

1. The black rock which has a natural force to attract the materials made of iron. ____________

2. The materials that are attracted to the magnet. ____________

3. The materials that are not attracted to the magnet. ____________

4. The area of the magnet which attracts a greater number of paper clips. ____________

5. A material gets attracted to the magnet. ____________

6. The pole that always refers to the north direction. ____________

7. The pole that always refers to the south direction. ____________

8. The space around the magnet in which the effect of magnetic force appears. ____________

9. The magnet ability to attract the magnetic existed in its field. ____________

10. The area of the magnet which attracts the greatest number of metal clips. ____________

11. A set which is used for locating the four main geographic directions. ____________

Q2 Complete:

1. The natural magnet is one of the iron ores which is Known as ——————————————

2. The different shapes of the man- made magnet are ——————————, ——————————————, —————————— & ——————————————

3. The materials that are attracted to the magnet are called ——————————

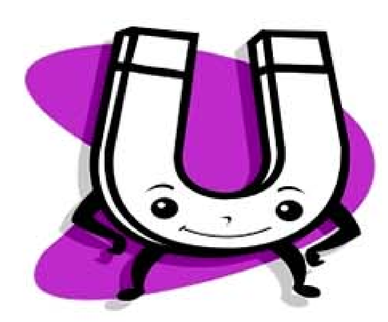
4. ——————& —————— are magnetic substances while ——————& ————— are non- magnetic substances.

5. The like magnetic poles ——————————each other While the dislike magnetic poles —————each other.

6. Each magnet has ——————— poles.

7. The greatest magnetic force of a magnet occurs at its ————————————

8. The ——————— is used to identify the four geographic directions.



Q3. Give reasons



1. Wood and glass are non- magnetic substances.
____

2. Paper clips and pins are magnetic substances.

____

Q4 Classify the following:

Wood – pins – glass – Chalk – paper clips – Nails – Copper.

Magnetic substances	Non- magnetic substances
____________________	____________________
____________________	____________________
____________________	____________________
____________________	____________________





Q5: Correct the underlined words.

1. The <u>**man- made**</u> magnet is called Magnetite.
   ____
2. A magnet attracts <u>**all**</u> the substances.
   ____
3. Like poles <u>**attracts**</u> and dislike poles <u>**repel**</u>.
   ____
4. Each magnet has <u>**3**</u> poles.
   ____
5. The horse shoe magnet is a <u>**natural**</u> magnet.
   ____
6. The greatest magnetic force of a magnet occurs at its <u>**middle.**</u>
   ____
7. The freely hanged magnet takes the <u>**West**</u> and <u>**east**</u> directions.
   ____





Worksheet 6

Q1 Complete:

1. The basic idea of the electric generators is the changing of ——————— into ———————

2. When you move a coil between 2 poles of the magnet, ——————— is generated in the coil.

3. The electromagnet is used in ——————— & ———————

4. The apparatus which converts the kinetic energy into electric energy is called the ———————

5. The electromagnet changes ——————— energy into ——————— energy, while the dynamo changes ——————— energy into ——————— energy.

6. The huge electric generators are used in ——————— & ———————

Q2 Choose the correct answer:

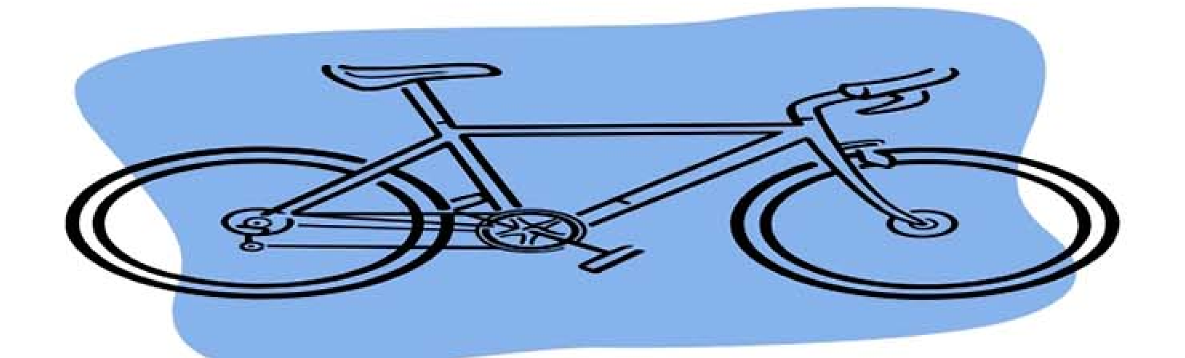
1. The dynamo is fixed in the bicycle touches the bicycle
   (Seat – Pedal – Tire)

2. The coil of a dynamo is made up of ———————— wire.
   (Copper – Carbon – Graphite)

3. The dynamo generates ————————— energy from mechanical energy.
   (thermal – electric – light)

4. When you move a coil between 2 poles of the magnet, ————————— is generated in the coil.
   (movement — magnet — electricity)

5. The ——————————— changes electric energy into magnetic energy.
   (electromagnet — electric motor – Dynamo)







Q1 Write the scientific term:

1. A mixture of gases such as oxygen, nitrogen, carbon dioxide& water vapour. ______________

2. A method which is used to separate a mixture of Sand& iron fillings. ______________

3. A mixture of minerals such as calcium, magnesium& water. ______________

4. The materials which are made of only one type of Identical particles. ______________

5. A substance which contains more than one type of particles. ______________

Q2 How can you separate the following mixtures.

1. Sand solution.
____

2. Paper clips& flour.
____

3. water& oil solution.
____

4. Chalk& water solution.
____

5. Sugar solution.
____



1. Mixtures can be mixed by ——————, ——— & ——————————

2. Salt& pepper can be mixed by —————————— Or ——————————

3. salt& water can be mixed by —————————— or ——————————

4. Water& oil can be separated by ——————————

5. Dissolving carbon dioxide gas in a sugar solution is a type of —————————— mixture.

Q4 Suggest the mixture which can be separated by:

1. Magnetic attraction
   ——————& ——————

2. Filtration
   ——————& ——————

3. Evaporation

   ——————& ——————



Worksheet 8

Q1 What are the factors affecting dissolving?

1. ______________________________
2. ______________________________
3. ______________________________
4. ______________________________

Q2. Complete:

1. Mixing a small amount of mud with water forming ______________ solution that can be separated by ______________
2. Increasing ______________ reduces solubility time.
3. In our daily life we use different types of solvents called ______________
4. ______________ is considered to be a general solvent because of its ability of dissolving most materials.
5. Increasing temperature ______________ solubility time.



Worksheet 9

Q1 Write the scientific term:

1. The relationship between two organisms with a benefit to one and harm to the other. ______________________

2. The relationship between two organisms, one benefits while the other neither benefit nor harmed. ______________________

3. The relationship between two organisms that benefits from each other. ______________________

4. The plants which feed on tiny animals such as insects to get proteins. ______________________

5. A phenomena in which a living organism can change its color to stimulate the colors of the environment. ______________________

6. A phenomena in which the harmless living organisms imitate other harmful or poisonous living organisms to fear their enemies. ------------------------------

7.The parasitism which causes Elephantiasis diseases to man. ______________________

8.The parasitism which causes Malaria diseases to man . ______________________

9.The parasitism which causes small pox diseases to man. ______________________

10.The external parasitism which sucks the blood of the fish. ______________________

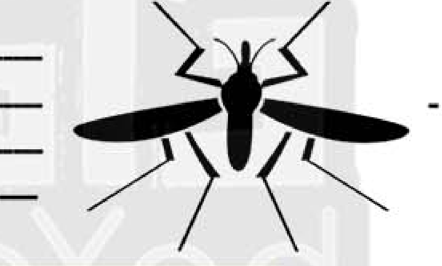
Q2 Match:



	A		B
1.	Predation	a	A relationship between man& worms.
2.	Mutualism	B	A relationship between insects& flowers.
3.	Symbiosis	C	A relationship between Crocodile & birds.
4.	Saprophytism	D	A relationship between cats& rats.
5.	Parasitism	E	A relationship between Fungi& food remains.

Q3 Write the name of the parasite that causes the following diseases:

1. Elephantiasis: ______________________
2. Small pox: ______________________
3. Malaria: ______________________
4. Bilharziasis: ______________________



Q4: Mention the kind of food relationship between:

1. A Snake& a bird: ______________________
2. Bees& flowers: ______________________
3. Mosquitoes& man: ______________________
4. Bilharzia& man: ______________________
5. Bread& the mold fungus: ______________________
6. Birds& Hippopotamus: ______________________
7. Birds& Crocodiles: ______________________





1. Write the scientific term:

1. A natural area including the living& the non- living things.
____

2. The balance among the components of the Ecosystem.
____

3. The organisms which work on decomposing the bodies of dead organisms. __________________

4. The organisms which organize the numbers of prey's populations.
____

2. Choose the correct answer:

1. Which of the following is a very large ecosystem?
   a. A piece of land
   b. Water pond.
   c. The Ocean.

2. All of the following are living organisms of an ecosystem **except:**
   a. Fungi.
   b. Soil.
   c. Algae

General Exercises

Give reasons:

1. Some plants are known as insectivorous.

----

2. A cuttlefish can hide from its enemies.

----

3. Some bees look like wasps in forming lines on their bodies.

----

4. A chameleon can hide from its enemies.

----

5. Bees and flowers get mutual benefits from each other.

----

6. Saprophytic organisms are called decomposers.

----

7. Lice, bugs& mosquitoes are external parasites.

----

8. Mosquitoes are very dangerous parasite.

----

9. Decomposers are considered the guards of nature.

----

10. Bilharzia worm& liver worm are internal parasites.

----

11. Flaria worm is very dangerous to human.

Model Exam 1

Q1 Complete:

1 The food relationship between cat and rat is ----------------

2. Salt& pepper can be mixed by -------------------------- Or -------------------

3. Dissolving carbon dioxide gas in a sugar solution is a type of -------
nixture.

4. Energy is the ability to -------------------------------

5. The seven spectrum colors are -------------------, --------------

---------------, ---------------, -------------------, -----------------

6. The prism separates sunlight into ----------------------------------

Q2 Choose the correct answer:

1. The white light consists of -------------- spectrum colors.
(5 - 6 - 7)

2. The -------------materials don't allow the light to travel trough them& thi behind can't be seen clearly.
(transparent – translucent – opaque)

3. Each magnet has ------------------- pole/s.
(one – two – three)

4. The freely hanged magnet takes the ----------------- directions.
(North, east – North, South – North, West)

Q3 Write the scientific term:

1. The main source of light on the earth's surface.

Q3 Write the scientific term:

1. The main source of light on the earth's surface.

----

2. A substance which contains more than one type of particles.

----

3. The materials that are attracted to the magnet.

----

4. A method which is used to separate a mixture of Sand& iron fillings.

----

5 A group of seven colors appears in the air forming a rainbow colors.

Q4. You have the following objects:

Pins - nails – Paper clips - glass - chalk pieces - aluminum - copper

*** Classify them into magnetic or non- magnetic materials according to their attraction to the magnet:**

Materials that are attracted to the magnet	Materials that are not attracted to the magnet
1.	1.
2.	2.
3.	3.

Model exam 2

Q1. Write the scientific term:

1. The Phenomena in which the harmless living organisms imitate other living organisms to fear their enemies.

----

2. The plants which feed on tiny animals such as insects to get proteins. **-------------------------------------**

3. The materials which are made of only one type of identical particles. **-----------------------------**

4. A set which is used for locating the four geographic directions.
----

5. The changing of the direction of light ray when it passes through two different transparent medium.

Q2. Choose from column B the suitable answer from Column A

A	B
1Predation	a. The relationship between the bee and the flower.
2. Mutualism	b. The relationship between the crocodile and the bird.
3. Symbiosis	c. The relationship between the snake and the bird.

Q3. Give reasons:

1. Some bees look like wasps in forming strips on their bodies.

---

2. Although the moon is a dark body, it looks bright.

--

3. Iron nails are magnetic substances.

Q4. Correct the underlined word:

1. The phenomena in which a living organism can change its color is called Mimicry.

----

2. Light travels in *curved* lines.

----

3. The returning back (bouncing) of light when it falls on a plane mirror is called *light refraction*.

--

4. Like magnetic poles attract each others.

----

5. Red, green and blue are called secondary colors.

----

6. The Dynamo changes kinetic energy into heat energy.

Model exam 3

Q1 Name three of the shapes of man- made magnet:

1 ---

2. --

3. ---

Q2. Complete:

1 When you move a coil between the 2 poles of the magnet an --------------------------------- is generated in the coil.

2. The relationship between the bird and the hippopotamus is ---

3. Light travels in ------------------------------------ lines.

4. The prism separates sunlight into ------------------------------------

5. The ------------------------------- is used in making electric bells and electric winches.

Q3 Give reasons:

1 Green plants are called autotrophic (self feeder) organisms.

--

2. The formation of the shadow.

--

3. The relationship between the bee& the flower is mutualism.

--

Q4 Suggest the mixture which can be separated by:

1 Magnetic attraction

------------------------------------ and ---

2. The Separating funnel

-------------------------------------- and --------------------------------------

3. Filtration process:

-------------------------------------- and -------------------------------------

4. Evaporation process:

-------------------------------------- and --------------------------------------

Q5. Choose the correct answer:

1 The dynamo which is fixed in the bicycle touches the

(seat ---- pedal ---- tire)

2. The greatest magnetic force of the magnet occurs at its---------

(poles ----- middle ---- none of them)

3. The energy that can be seen is the -------------------- energy.

(electric ----- magnetic ----- light)

4. The ------------------------- eject a black color fluid in water when attacked by its enemies.

(Chameleon ---- Cuttlefish ---- Frog)

5. The ------------------------ is an example of liquid- liquid mixture.

(Air ---- water and oil ----- water and sand)

Model Exam 4

Q1 Give reasons:

1. **Although the moon is a dark body, it looks bright.**

----

2. **The spoon appears broken when it is placed in a cup of water.**

Q2 Correct the underlined word:

1. Red, green and blue are called <u>secondary</u> colors.

----

2. The prism separates the white light into <u>six</u> spectrum colors.

----

3. The <u>moon</u> is the main source of energy on Earth's surface.

Q3 Complete:

1. The seven spectrum colors are:

---------------------- , ----------------------- , ---------------------- , -----------------------

---------------------- , ---------------------- , -------------------------

2. Every magnet has --------------- poles.

3. The like magnetic poles ---------------- each other, while the dislike magnetic poles ------------------------- each other.

4. The --------------------- is used for locating the main 4 directions.

5. The --------------------- changes the kinetic energy into electric.

6. Air is a ------------------- of gases.

7. Mixture can be formed by -------------------, --------------------- &

Q4 Show how can you separate the following mixtures:

1. Sand solution:

----

2. Iron fillings& sand:

----

3. Water& oil:

----

4. Salt solution:

Q5 Mention the type of relationships in each :

1. The lion & the deer.

----

2. The Crocodile& the bird.

Model Exam 5

Q1. Choose the correct answer:

1. The relationship between the lion and the deer is ---------

(Mutualism - Commensalism – Predation)

2. Like magnetic poles---------------------- each others.

(repel – attract – don't effect)

3. The ------------------------ is used in electric bells& cranes.

(Dynamo – Compass – electromagnet)

4. The bouncing of light rays is due to its -------------------------

(Refraction – Reflection – Separation)

5. The relationship between the bee and the flower is

(Mutualism - Commensalism – Predation)

Q2. Write the function of:

1. The compass:

----

2. The Dynamo:

----

3. The Electromagnet:

Q3. Put (√) or (x):

1. Light travels in curved lines. ( )

2. The relationship between the crocodile& the bird is symbiosis. ( )

3. Green plants can't make their own food. ( )

4. Red, green and magenta are called primary colors. ( )

5. Paper clips& iron fillings are magnetic materials. ( )

Q4 Complete:

1. The bee looks like wasps to -------------------- from enemies.

2. Camouflage is found in frogs& -------------------------

3. The greatest magnetic force of a magnet occurs at its -------

4. The -------------------- separates the white light into 7 colors.

5. The -------------------- which energy can be seen.



Good Luck